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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,131	03/27/2001	Shlomo Ovadia	42390P11290	3814

8791 7590 06/02/2005

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EXAMINER	
LAYE, JADE O	

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/819,131	OVADIA, SHLOMO	
	Examiner	Art Unit	
	Jade O. Laye	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892) ✓
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-27 have been considered but are moot in view of the new ground(s) of rejection. Based upon Applicant's narrowing amendments, a new ground of rejection was necessitated and will be addressed below.

2. In view of Applicant's amendments, the objections to the Specification, Claims, and Drawings asserted in the previous non-final action have been withdrawn.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1, 9, 10, 20, and 27 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 10, 11, 18, and 19 of copending Application No. 09/819163. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter of claims 1, 9, 10, 20, and 27 is encompassed by claims 1, 10, 11, 18, and 19 of the '163 application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roeck et al (US Pat. No. 6,574,796) in view of Shahar et al. (US Pat. Pub. No. 2003/0002495).

Amended claim 1 recites a method for identifying data channels within a cable broadband signal, comprising:

(a) Tuning a receiver of a cable modem to a first of a plurality of channels within a received cable broadband signal;

(b) searching for a pilot tone within the tuned channel; and

(c) updating one or more operating parameters of the cable modem to denote the tuned channel is a data channel if the pilot tone is detected.

As to claim 1, Roeck discloses a fast and reliable method/system for detecting a data channel within a data-over-cable system. Roeck achieves this via tuning a receiver to a first of a plurality of channels within a broadband signal and then performing an analysis on the channels in order to determine which are data channels. (Abstract; Col. 1, Ln. 16-20 ; Col. 3, Ln. 6-27 ; Col. 4, Ln. 22-67 thru Col. 5, Ln. 1-44). But, Roeck fails to specifically teach the use of a pilot signal to achieve this objective. However, within the same field of endeavor, Shahar discloses a similar system utilizing a cable modem, which searches for a pilot tone in order to decipher which channels are data channels. Once ascertained, the system determines which modulation method should be applied (i.e., updating operating parameters). (Pars. [0005 & 0048-0052]). Moreover, Roeck discloses various other well-known methods of efficiently detecting data channels utilized by cable modems.

Shahar goes on to disclose a strong motivation to combine. In Paragraphs 0048-0052, Shahar teaches the use of pilot signals result in a faster channel acquisition, robust channel tracking, and allows the system to acquire locks on data channels without the need to demodulate. (Pars. [0048-0052]). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Roeck and Shahar

in order to create a channel detector utilizing a pilot tone within a data-over-cable system, thereby providing a faster and more efficient cable modem.

*[**NOTE**: The use of pilot signals to locate data channels is well known in the art of telecommunications. (As evidenced by Hughes, US Pat. No. 6,122,334 and Yamamoto, US Pat. No. 6,483,829)]*

Claims 9, 10, 18, 20, and 27 correspond to the method claim 1. Thus, each is analyzed and rejected as previously discussed.

Amended Claim 2 recites the method of claim 1, further comprising: tuning the receiver to a next channel if the pilot tone is not detected; and repeating the searching, updating and tuning steps until pilot tone is detected. As discussed above, the combined system of Roeck and Shahar contain all limitations of claim 1, and Roeck further teaches the system will continue to perform searching until a valid data channel is found. (Col. 7, Ln. 42-62 ; Col. 9, Ln. 42-64 ; Col. 10, Ln. 66-67 thru Col. 11, Ln. 1-51). Accordingly, the combined system of Roeck and Shahar contains all limitations of claim 2.

Claims 11 and 21 correspond to the method claim 2. Thus, each is analyzed and rejected as previously discussed.

Amended claim 3 recites the method of claim 1, wherein searching for the pilot tone comprises: analyzing channel components to detect a base band frequency offset in one or more of the channel components. As discussed above, the combined system of Roeck and Shahar contain all limitations of claim 1, and Shahar further teaches his system analyses the I component of each signal in order to detect an increased DC value (i.e., frequency offset), which signals the

presence of the pilot tone. (Par. [0051]). Accordingly, the combined system of Roeck and Shahar contains all limitations of claim 3.

Claims 6 and 17 correspond to the method claim 3. Thus, each is analyzed and rejected as previously discussed.

Amended Claim 4 recites the method of claim 3, wherein the pilot tone is a continuous wave tone added to one or more of the in-phase component and/or quadrature-phase component of the channel in base band prior to combining of the components for modulation and transmission. As discussed above, the combined system of Roeck and Shahar contain all limitations of claim 3, and Shahar further teaches the pilot tone is added to the I (i.e., in phase component) component of the signal. (Par. [0051-0053]). Accordingly, the combined systems of Roeck and Shahar contain all limitations of claim 4.

Claim 5 recites the method of claim 4, wherein analyzing the channel comprises: demodulating channel content; and determining whether the channel includes a continuous wave tone in one or more of the in-phase (I) and/or quadrature-phase (Q) component(s) of the channel, wherein the tone in either of the component is an indication that the channel is a data channel. As discussed above, the combined system of Roeck and Shahar contain all limitations of claim 4, and also contain all limitations of claim 5 because claim 5 is inherent in view of claim 4. Since the channel content is modulated at the transmission side, it must be demodulated at the receiving side. Also, since the pilot tone is added to the I component of the channel at the transmission side, the receiving side must determine (1) whether the pilot is present, and if present, (2) where the pilot is located. Accordingly, the combined system of Roeck and Shahar contain all limitations of claim 5.

Claims 12-16, and 22-24 correspond to the method claim 5. Thus, each is analyzed and rejected as previously discussed.

Claim 7 recites the method of claim 1, wherein updating the parameters comprises communicating one or more channel parameters to control logic of the cable modem. As discussed above, the combined system of Roeck and Shahar contain all limitations of claim 1, and Shahar further teaches the system determines what modulation scheme to apply once the pilot signal has been ascertained (i.e., communicates channel parameters). (Par. [0049]). Accordingly, the combined system of Roeck and Shahar contain all limitations of claim 7.

Claim 8 recites the method of claim 7, wherein the data channel parameters include one or more RF frequency of the channel, modulation attributes of the channel, bandwidth, status of channel, and the like. As discussed above, the combined system of Roeck and Shahar contain all limitations of claim 7, and Shahar further teaches the system determines what modulation scheme to apply once the pilot signal has been ascertained (i.e., modulation attributes). (Par. [0049]). Accordingly, the combined system of Roeck and Shahar contain all limitations of claim 8.

Claims 19, 25, and 26 correspond to the method claim 8. Thus, each is analyzed and rejected as previously discussed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Hughes (US Pat. No. 6,122,334) discloses a system which detects channels via the use of pilot signals.

b. Yamamoto (US Pat. No. 6,483,829) discloses a system which detects channels via the use of pilot signals.

c. Vogel et al (US Pat. No. 6,804,262) disclose a method and apparatus for channel detection.

d. Fijolek et al (US Pat. No. 6,510,162) disclose a system and method for managing channel usage.

e. Koperda (US Pat. No. 5,790,806) disclose a cable modem.

f. Jung (US Pat. No. 6,678,893) disclose a data-over-cable system which utilized pilot tones.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jade O. Laye whose telephone number is (571) 272-7303. The examiner can normally be reached on Mon. 7:30am-4, Tues. 7:30-2, W-Fri. 7:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner's Initials JL
May 27, 2005.

NGOC-YEN VU
PRIMARY EXAMINER